

POINT-SLOPE FORMULA

$$y - y_1 = m(x - x_1)$$

$$m = -2; (3, 5)$$

$$y - 5 = -2(x - 3)$$

$$y = mx + b$$

$$\begin{array}{rcl} y - 5 & = & -2x + 6 \\ +5 & & +5 \end{array}$$

$$y = -2x + 11$$

$$m = -5 \quad (-7, 2)$$

$$b = ?$$

$$y - y_1 = m(x - x_1)$$

$$y - 2 = -5(x - -7)$$

$$y - 2 = -5x - 35$$

+2

+2

$$y = -5x - 33 \quad b = -33$$

$AX + BY = C$  STANDARD EQUATION  
OF A LINE

$$\begin{array}{r} -7x + 2y = 5 \\ +7x \quad +7x \end{array} \quad m-? \quad b-?$$

$$\frac{2y}{2} = \frac{7x+5}{2}$$

$$y = mx + b$$

$$y = 3.5x + 2.5$$

$$m = 3.5$$

$$b = 2.5$$

$$-11x - 7y = 1$$

$$+11x \quad +11x$$

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$$\frac{-7y}{-7} = \frac{11x}{-7} + \frac{1}{-7}$$

$$y = -\frac{11}{7}x - \frac{1}{7}$$

m-? b-?

$$x_1 = -\underline{4} \quad y_1 = \underline{5}$$

$$x_2 = 3 \quad y_2 = -7$$

$$y = mx + b$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-7 - 5}{3 - (-4)} = \frac{-12}{7}$$

$$5 = -\frac{12}{7}(-4) + b \quad 48 \div 7 = 6(R6)$$

$$5 = \frac{48}{7} + b \quad b = 5 - \frac{48}{7} = 5 - 6\frac{6}{7}$$

$$b = -1\frac{1}{7}$$

HOME (3, -2)  
(-4, 7)

$$y = -\frac{12}{7}x - 1\frac{1}{7}$$